Kiang-pei boats (called beggar boats by foreigners in Shanghai). These boats, with their filthy, ragged, half-fed crews, migrate each year to the small waterways of Kiangsu and Chekiang, where they spend the winter, returning in the spring to their flooded field north of the Yangtze River.
Famine, Floods and Folly

By

Arthur De C. Sowerby

Just seven years ago on the 25th of this month, Tientsin, the leading Treaty Port of North China, was inundated by a flood that was more severe than anything within the memory of the inhabitants of that town. Well does one remember the occasion. For some weeks previously it was known that a vast body of flood-water was moving slowly over the great plain of Chihli seeking an outlet to the sea. It was the result of unusually heavy rains during the summer throughout the mountainous areas of that province and neighbouring North Shansi and Southern Mongolia, which had broken the dykes in one or more of the heavily silted rivers that are supposed to drain these areas.

No one, however, seemed to have realized the danger in which Tientsin lay, and so long as the water kept to the plain outside, and only swept away villages and crops and threatened the larger walled cities no one seemed to care.

But the residents of Tientsin got a rude shock when they found their homes and business premises under three to four feet of water. It caused them furiously to think, and more furiously to anathematize a country where such things were possible. Fifty thousand square miles of fertile land, with its innumerable villages and hamlets and millions of acres of rich crops, were under water at one time, while the water, moving from west to east, continually swallowed more land as it left the ruined ground behind.
It so happened that the writer had been travelling in the areas to the northeast of Peking that summer, where the devastation wrought by the floods was terrible. Whole villages had been swept away and hundreds of people drowned. In one place the high water mark was registered by bits of debris on the trees fifteen feet and more above the normal level of the stream.

It took the city fathers a month to get the water out of the foreign concessions in Tientsin, an undertaking which was only accomplished after the whole area had been dyked in. It took considerably more than a month to clear the Chinese city of flood water, while outside the dykes the water lay on the plains all through the winter, stretching away as far as the eye could see.

Those who are interested enough in the subject may look up the files of the Tientsin papers, and especially those of The China Illustrated Weekly, and there they will find pictures and accounts of the inundation that will astonish them. Coffins from the plains floated into the streets of the British Concession. Men sent their families away and lived at their clubs or in hotels. Business was at a standstill. The Haiho Conservancy became a very important institution, and its officials the centre of all eyes. What was to be done to prevent a repetition of such an occurrence? Many were the plans, many the suggestions, many the long articles in the papers, and many the resolutions.

But the floods subsided, and so did popular feeling. Good resolutions were forgotten, and the river conservancies and government bureaux slipped back contentedly into their old familiar ruts: and the catastrophe was forgotten. This only happens once in thirty or forty years, it was said, so there is no need to worry.

But history has an unpleasant way of repeating itself; while nature cannot always be so easily reckoned with, and this year, long before they are due, even worse floods have occurred. Unprecedented rains have fallen during the summer months throughout many provinces in North and Central China. The heavily silted rivers, that might have been dredged and deepened, but were not, have burst their dykes, and the floods have swept over the plains, carrying with them desolation, death and destruction.

Considerably more damage has been done in the mountainous areas than was the case in 1917. It is reported from Kalgan that some 3,000 lives have been lost, and enormous damage done to property. This was the result of two unprecedented freshets, in July and August, which swept away the protecting wall and demolished fully two-thirds of the town. It is estimated that over $30,000,000 worth of damage has been done in this city alone. Everywhere throughout the country bridges and large sections of railway line have been swept away. Large sections of Peking have been inundated and damage to the extent of millions of dollars done. Lives also have been lost in the very capital of the country. As much as one hundred thousand square miles of Chihli Province, it has been reported, have been under water at one time. Tientsin is again threatened with inundation, this time worse than 1917, since the flood level is much higher.
Chinese Women on a Home-made Raft during the 1917 Floods in Tientsin

Corner of Davenport and Council Roads, Tientsin, 1917
Floods in the Outskirts of the Native City, Tientsin, 1917

A Gruesome Sight. A Chinese Coffin Carried by the Flood into the Residential Area at Tientsin during the 1917 Flood
A Mule-Cart in Bruce Road, Tientsin, 1917. This gives a good idea of the depth of the water.

All that was Left to Him. On the Plain during the Tientsin Floods, 1917.
We also hear that the Min River in Fukien rose unusually high this year, 60 feet above normal in some places, and the cities along its banks, and especially Foochow, have suffered severely. News comes that the central provinces have also suffered severely from floods this summer. Canton, too, has suffered. Strangely enough, while Chihli, Fukien and other provinces have been suffering from severe floods, Shansi has been undergoing a drought, and the country people in that province are threatened with famine. Large areas of Southern Shantung and Northern Anhui are suffering from drought, while the Shanghai district is extremely dry. Meanwhile, the Huai River in Anhui is in flood again.

Surely there is something incongruous in this state of affairs. What, the average man asks, is the matter with a country where such a state of affairs exists? And he may well ask. What, indeed, is the matter with North China? Why these floods? Why these droughts?

The answer is a very simple one, and the remedy ready at hand, though expensive, and calling for a considerable amount of organization, determination, and, possibly, even sacrifice on the part of those in authority.

Floods and famine are, of course, directly attributable to unfavourable climatic and physiographical conditions, nor until one looked into the matter, would one be inclined to blame the government or people of a country suffering from such ills. Rather would one pity them.

But scientific investigation has led us to a knowledge of the reasons why certain kinds of climate are to be met with in certain countries, as well as the agencies at work to produce the physiographical features of those countries, and when we look into these in connection with the present conditions in North China, we realize that the Chinese have no one but themselves to blame for their present sufferings.

Our readers will remember the leading article in our July issue, which dealt with the forests, or lack of them, in China. It was pointed out there that the whole of North China was at one time more or less heavily forested, but that now the mountains, except for a few isolated and rapidly diminishing areas, are barren, often lacking even the scantiest kind of vegetable covering.

The results are manifold. In the first place, the lack of heavy vegetation in mountainous areas affects the climate. Forests induce precipitation. That is to say, wherever there are heavy forests, the moisture contained in the air is induced to precipitate, with the result that rain is frequent. A more or less steady rainfall occurs. Where there are no forests on the mountains, precipitation does not take place so readily, and moisture accumulates in the atmosphere. A marked fall in the temperature of the atmosphere, or some other factor, causes a sudden precipitation, and down come the accumulations of moisture in the form of torrential rains. This in itself is undesirable, but when such rains fall upon mountains that are barren of vegetation, the result is disastrous. Vast quantities of silt are carried down, and, when the plains are reached, are deposited in the beds of the rivers. These are steadily built up. The next time a torrential rain occurs, the river channels are not able to
carry off the excess water, with the result that the latter overflows the banks and floods the surrounding country.

And this is exactly what has happened throughout North China. The people have, during the past centuries, steadily cut away the forests that once existed. Not content with this, they have also cut away the underbrush. They even rake up the grass by the roots for fuel. The Government, which should be the father and mother of the people, has permitted this folly, and now we have a truly distressing state of affairs. Long periods of drought, interspersed with periods of torrential rains, vast stretches of crop-covered plains land flooded, villages swept away, people drowned in hundreds, cities inundated, millions of dollars worth of property destroyed!

Let us consider for a moment what would be the difference if the mountains of North China were covered with an adequate vegetation. It could not be other than extremely favourable, as evidenced by the conditions in the few well forested areas that exist. Besides causing a more constant and steady rainfall, a more or less heavy vegetation on hills and mountains acts as a sponge. Not only does it prevent silt from being carried down to the plains, but by holding the water, it regulates the flow, so that the latter is more or less steady instead of torrential.

In North China this would be an inestimable boon, for, instead of the heavy rainstorms and resultant torrents of water rushing down from the hills, the rainfall would be less intense and more evenly distributed. The water would be held almost as in a reservoir and would find its way on to the plains in clear, steady streams, instead of intermittent, silt-laden freshets.

There is, of course, only one effective remedy for the prevailing conditions in North China; namely, the reforestation of the mountainous areas. Much may be done to prevent flooding by deepening the channels of the rivers and keeping them well scoured. Dykes may also be of use, as well as other conservancy work, but none of these remedies is really effectual or lasting. At best they can only be considered as supplementary aids. It is to the source of the trouble that we must go if permanent relief is to be secured.

After the 1917 floods the Chihli River Conservancy Commission was formed, and one hears that it has done much useful work in the seven years that have elapsed since the last great floods. In fact, surveys have been made and valuable data collected. The present floods, we are told, will give the Commission a further chance of making valuable observations. But all this is tackling the problem from the wrong end. Afforestation must come first, whatever the cost, and whatever the difficulties to be overcome. After the mountains and hills have been re-covered with vegetation, conservancy work may be undertaken with some degree of certainty that it will be effective and its results more or less permanent.

The writer pointed this out in 1917. Many writers pointed it out. The Chinese Government was supplied with unlimited advice. But
Corner of the Main Merchant Business Street at Kalgan after the Flood

Swathe Cut by Flood Straight Across Thickly Populated Section Backing into Main Street, Kalgan, during the Freshet in July this Summer, when about 1,000 People were Drowned. This Open Space was Formerly all Houses: the Boy is Standing on the Foundations of an Old Partition Wall
Covering a Corpse in the Main Street, Kalgan, 1924

Corpse in Main Street, Kalgan, where 3,000 Lives have been lost this Summer as the result of Floods
Hunting for their Belongings in the Ruins at Kalgan After the First Freshet

Collapsed House at Kalgan. Note Dog on K'ang: it returned to its Usual Sleeping Place to find all the Family Carried Away
has anything been done to reforest the barren mountains of Chihli? Most emphatically not. It was estimated that it would cost $300,000,000 and take thirty years before any appreciable difference would be felt. This seemed to settle the matter, as being impracticable.

In the last issue of the China Year Book the following paragraph occurs. "... the keynote of the Government's policy is reforestation by private enterprise." This simply means that no serious attempt is being made to remedy the evil which is directly responsible for the recent appalling catastrophes. So far from doing anything to reforest the barren mountains of North China, the Government has actually permitted further very extensive demolishing of timber reserves, as example the forested area of the Tung Ling, which was discussed in our July issue.

The climatic conditions of North China to-day are just those of any semi-arid area, and it has been the work of the Chinese people that has brought about this state of affairs. And the Government stands by inert, supine. Even if it is impossible to reforest the whole of the mountainous area, a great deal could be done by merely prohibiting the natives cutting away the underbrush and raking up the grass for fuel, as they now do. If the Chinese would only leave the matter to nature, conditions would improve. But they will not and their Government has neither the power nor the will to make them.

So the people must be drowned, they must die of famine, while those who have the power in the land wrangle and fight for further power, intrigue and plot for their own nefarious ends, embezzle or squander the country's money, instead of setting to work to remedy the evils from which their countrymen are suffering.